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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

NGUYEN, THANH NHAN P

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/673,242	Applicant(s) SA ET AL.	
	Examiner (Nancy) Thanh-Nhan P. Nguyen	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This communication is responsive to Amendment dated 8/29/2005.

Claims 1-17 are pending for the examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gu et al U.S. Patent No. 6,359,672 in view of Jones et al U.S. Patent No. 6,417,899.

Referring to claims 1 and 2, Gu et al discloses a liquid crystal display device, comprising: a transparent insulating substrate (19); a gate line (7) and a gate electrode (17) on the transparent insulating substrate; a gate insulating film (21), an active layer (23), an ohmic contact layer (25), source (15) and drain (13) electrodes, and a data line (5) on the transparent insulating substrate, the source and drain electrodes disposed at opposing sides of the active layer; a passivation film (33) formed on the transparent insulating substrate including the source and drain electrodes and the data line; a pixel electrode (3), wherein the pixel electrode include ITO, [see figs. 1 & 4].

Gu et al lacks disclosure of a polarizing film formed on the passivation film to extend over the data line; and a pixel electrode formed on at least the polarizing film.

Jones et al discloses a polarizing film (53); and the pixel electrode (7) formed on at least the polarizing film, [see fig. 2], for the benefit of improving contrast ratios in the

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display, [see abstract]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have of a polarizing film formed on the passivation film, wherein the passivation formed on the thin film transistor; and a pixel electrode formed on at least the polarizing film for the benefit of improving contrast ratios in the display.

Further, since the pixel electrode (3) overlapped the data line (5), [from Gu et al reference], and the internal polarizing film formed on the passivation film and below the pixel electrode, [from the combination of Gu et al & Jones et al references], it would have been obvious for one ordinary skill in the art to have the internal polarizing film overlapped the data line. In fact, in manufacturing, it will require more steps to pattern the internal polarizing film to avoid of overlapping the data line, and therefore, it will reduce the production.

Claims 3-4 are met the discussion regarding claims 1-2 rejection above.

Claims 5-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paukshto et al U.S. Patent Application Publication No. 2004/0085496 in view of Makino U.S. Patent No. 6,259,505.

Referring to claim 5, Paukshto et al discloses a liquid crystal display device comprising a transparent insulating substrate (603); a color filter layer (614); a polarizing film (606) formed on the color filter layer; and a common electrode (604) formed on the polarizing film, wherein the polarizing film is parallel to the transparent insulating substrate, [see fig. 6A].

Paukshto et al lacks disclosure of a black matrix formed on the transparent insulating substrate; and color filter formed on upper surface of the black matrix.

It was well known to have black matrix formed on the transparent substrate; and color filter formed on upper surface of the black matrix wherein the black matrix functioning as preventing the light leakage between pixels or preventing the mixing colors between color filters, as evidenced by Makino, [see fig. 1, element '12' for black matrix & '11R', '11G', '11B' for color filters]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have a black matrix formed on the transparent insulating substrate; and color filter formed on upper surface of the black matrix for the benefit of preventing the light leakage between pixels or preventing the mixing colors between color filters.

Referring to claim 6, Paukshto et al further lacks disclosure of an overcoat film formed between the color filter layer and the polarizing film.

Makino discloses an overcoat film (14) formed on the color filter (11R, 11G, 11B), [see fig. 1], for the benefit of functioning as electrical insulation between the color filter and an electrode formed thereon, [see col. 1, lines 31-36]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have an overcoat film formed on the color filter for the benefit of functioning as electrical insulation between the color filter and an electrode formed thereon.

Referring to claim 7, Paukshto discloses the common electrode (604) includes ITO, [see par. 0105].

Claim 8 is met the discussion regarding claim 5 rejection above.

Claims 9 and 11 is met the discussion regarding claim 6 rejection above.

Claim 10 is met the discussion regarding claim 7 rejection above.

Claims 12 and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paukshto et al in view of Jones et al.

Referring to claim 12, Paukshto et al discloses a liquid crystal display device, comprising: a thin film transistor substrate; a color filter substrate; a liquid crystal material (2404) formed between the thin film transistor substrate and the color filter substrate; a polarizing film (2405), wherein the polarizing film is parallel to the transparent insulating substrate, [see fig. 24C].

Even though Paukshto et al lacks disclosure of a color filter substrate having a black matrix, it was well known to have a black matrix formed on a color filter substrate for the benefit of preventing the light leakage between pixels or preventing the mixing colors between color filters on the color filter substrate, as evidenced by Jones, [see fig. 2, element '21' for black matrix]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have a black matrix formed on a color filter substrate for the benefit of preventing the light leakage between pixels or preventing the mixing colors between color filters on the color filter substrate.

Paukshto et al further lacks disclosure of a pixel electrode formed on the thin film transistor substrate and a common electrode formed on the color filter substrate, the pixel electrode and the common pixel aligning orientation of liquid crystal molecules of the liquid crystal material; and the polarizer contacting at least one of the pixel electrode and the common electrode for transmitting light vibrating in one direction.

It was well known that using electrodes (pixel electrode and common electrode) in liquid crystal display for being applied voltage to drive the liquid crystal. And it is evidenced by Jones et al, [see fig. 2, pixel electrode 7, and common electrode 15]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have a pixel electrode formed on the thin film transistor substrate and a common electrode formed on the color filter substrate, the pixel electrode and the common pixel aligning orientation of liquid crystal molecules of the liquid crystal material.

Jones et al further discloses the internal polarizer (17) or (53) contacting the electrode(s), [see fig. 2], for the benefit of improving contrast ratios in the display, [see abstract]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have the polarizer contacting at least one of the pixel electrode and the common electrode for transmitting light vibrating in one direction for the benefit of improving contrast ratios in the display.

Referring to claim 14, Paukshto et al discloses an overcoat film (2402) formed beneath the polarizing film (2405) contacting the common electrode.

Referring to claim 15, Paukshto et al discloses a liquid crystal display device, comprising: a first substrate (2412); a second substrate (2403); a color filter film (2406); a liquid crystal material (2404) formed between the first and second substrates; an overcoat film (2402) on the color filter film; and a polarizing film (2405), [see fig. 24C].

Even though Paukshto et al lacks disclosure of a color filter substrate having a black matrix, it was well known to have a black matrix formed on a color filter substrate

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for the benefit of preventing the light leakage between pixels or preventing the mixing colors between color filters on the color filter substrate, as evidenced by Jones, [see fig. 2, element '21' for black matrix]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have a black matrix formed on a color filter substrate for the benefit of preventing the light leakage between pixels or preventing the mixing colors between color filters on the color filter substrate.

Paukshto et al further lacks disclosure of a plurality of pixel electrodes on first substrate; a common electrode on second substrate; and a polarization film formed beneath the common electrode.

It was well known that using electrodes (pixel electrode and common electrode) in liquid crystal display for being applied voltage to drive the liquid crystal. And it is evidenced by Jones et al, [see fig. 2, pixel electrode 7, and common electrode 15]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have a pixel electrode formed on the thin film transistor substrate and a common electrode formed on the color filter substrate, the pixel electrode and the common pixel aligning orientation of liquid crystal molecules of the liquid crystal material.

Jones et al further discloses the internal polarizer (17) formed beneath the common electrode (15), [see fig. 2], for the benefit of improving contrast ratios in the display, [see abstract]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have the polarizer formed beneath the common electrode for the benefit of improving contrast ratios in the display.

Referring to claim 16, Paukshto et al discloses an upper surface of the overcoat (2402) film is flat, (and directly contacts the color film (2406) and the polarizing film (2405), [see fig. 24C].

Claim 17 is met the discussion regarding claims 15-16 rejection above.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Paukshto et al in view of Jones et al discussed above, and further in view of Trapani et al U.S. Patent Application Publication No. 2003/0002154.

Referring to claim 13, Paukshto et al lacks disclosure of the polarizing film includes polyvinyl alcohol.

Trapani et al discloses the polarizing film includes polyvinyl alcohol for the benefit of preventing degradation of the polarizer in the normal working environment such as in a liquid crystal display device, [see paragraph 0007, lines 12-14]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have the polarizing film includes polyvinyl alcohol for the benefit of preventing degradation of the polarizer in the normal working environment.

Response to Arguments

Applicant's arguments with respect to claims 1-17 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Gu et al U.S. Patent No. 6,359,672.

Jones et al U.S. Patent No. 6,417,899.

Paukshto et al U.S. Patent Application Publication No. 2004/0085496.

Makino U.S. Patent No. 6,259,505.

Trapani et al U.S. Patent Application Publication No. 2003/0002154.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to (Nancy) Thanh-Nhan P. Nguyen whose telephone number is 571-272-1673. The examiner can normally be reached on M-F/9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

(Nancy) Thanh-Nhan P. Nguyen
Examiner
Art Unit 2871
-- November 9, 2005 --

TN


ANDREW SCHECHTER
PRIMARY EXAMINER